

Application No.: 09/845,243

No.: BCS03665
(PATENT)**AMENDMENTS TO THE CLAIMS**

1. (Previously presented) A burst mode receiver comprising:
a converter which converts a received optical signal including a plurality of packets transmitted in burst mode into an electrical signal;
a pre-amplifier coupled to the converter through a capacitor, which receives an AC-coupled electrical signal from the converter and outputs a corresponding voltage signal, the voltage signal having a driven edge time constant for each driven edge of the AC-coupled electrical signal and an undriven edge time constant that is extended and longer than the driven edge time constant for each undriven edge of the AC-coupled electrical signal; and
a differential amplifier having a hysteresis circuit coupled to the pre-amplifier, the differential amplifier receiving the voltage signal from the pre-amplifier and outputting a digital signal corresponding to the voltage signal, wherein the hysteresis circuit holds the digital signal in a particular state for each undriven edge of the voltage signal and changes the state of the digital signal for each driven edge of the voltage signal.
2. (Previously presented) The burst mode receiver of Claim 1 wherein the undriven edge time constant is shorter than a guard time between packets,
3. Cancelled.
4. (Original) The burst mode receiver of Claim 2 wherein the packets have a wide dynamic range of power levels.
5. (Previously presented) The burst mode receiver of Claim 4 wherein the range of power levels is -32dBm to -7dBm.
6. (Original) The burst mode receiver of Claim 1 further comprising a filter coupled between the pre-amplifier and the differential amplifier.

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7. (Previously presented) The burst mode receiver of Claim 1 wherein the optical signal is received from a remote terminal in a Passive Optical Network.

8 -12. Cancelled.